

In conclusion, I must express my indebtedness to the Director of the Laboratory, Dr. Glazebrook, at whose instigation this work was carried out, to Dr. Chree, Superintendent of the Observatory Department, for much valuable information, and to Mr. W. Hugo, who was responsible for the whole of the observational work of the calibrations and also assisted in the comparisons.

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*Determinations of Wave-length from Spectra obtained at the Total Solar Eclipses of 1900, 1901 and 1905.*

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(Abstract.)

This paper gives the wave-lengths deduced from measures of a number of photographs of the chromosphere and corona obtained in three eclipse expeditions from the Royal Observatory, Greenwich. The spectra extend from wave-length 3300 to 5875.

Nearly all the brighter lines of the chromosphere are identified with practical certainty, the observed wave-length differing in very few cases by 0.1 tenth-metre from the line with which it is identified. The identification was principally made by comparison with the spark spectra of Exner and Haschek, Sir Norman Lockyer's results being used for "enhanced" lines. For comparison, the intensities of the corresponding lines in the spark, arc, and solar spectra are given, obtained from various published sources.

The wave-lengths and intensities of a number of lines in the spectrum of the higher chromosphere obtained at Sfax in 1905 are also given.

The wave-lengths and intensities of the lines observed in the spectra of the corona at the three eclipses are also given.

The paper is purely descriptive and shows in detail the relation between the chromospheric spectrum and those of the spark and arc, but does not attempt to assign physical causes to the differences and resemblances.

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